



State of Ohio Environmental Protection Agency

Southwest District Office

401 East Fifth Street
Dayton, Ohio 45402-2911
(513) 285-6357
FAX (513) 285-6249

FERNALD

LOG A-1165

MAY 2 8 49 AM '00

-- 2941 George V. Voinovich
Governor

FILE: _____
LIBRARY: _____

April 28, 2000

Mr. Johnny Reising
U.S. DOE FEMP
P.O. Box 398705
Cincinnati, OH 45329-8705

**RE: COMMENTS ON THE INTEGRATED ENVIRONMENTAL MONITORING STATUS
REPORT FOR FOURTH QUARTER 1999**

Dear Mr. Reising:

Ohio EPA has reviewed the Integrated Environmental Monitoring Status Report for the Fourth Quarter 1999 submitted by DOE. Ohio EPA approves this document along with the incorporation of the attached comments.

If there are any questions, please contact me at (937) 285-6466 or Donna Bohannon at (937) 285-6543.

Sincerely,

Thomas A. Schneider
Fernald Project Manager
Office of Federal Facilities Oversight

cc: Jim Saric U.S. EPA
Terry Hagen, Fluor Daniel Fernald
Francis Hodge, Tetrattech
Ruth Vandegrift, ODH
Mark Schupe, HSI Geotrans
Manager TPSS, DERR

Q:\femp\OU5\IEMP\4Q99rpt.wpd



Printed on recycled paper

**Integrated Environmental Monitoring Status Report
for Fourth Quarter 1999
51350-RP-0009, Rev. 0, Final.**

Comments:

1. Commenting Organization: OEPA Commentor: HSI GeoTrans, Inc.
Section #: 1.2.1.2 Pg. #: 1-6 Line #: 19 Code: C
Original Comment #
Comment: Field filtering of groundwater samples collected at the site should not be performed unless an unfiltered (total) uranium sample is always collected along with the filtered sample. The unfiltered sample is critical because it will include all forms of mobile uranium in the groundwater (both aqueous and the mobile solid phase). The existence of mobile colloids in site groundwater has been demonstrated by use of the colloidal borescope which passively measures the direction of groundwater flow by the movement of colloids in a well. Filtering would undoubtedly remove some or all of these colloids. The loss of uranium could also occur due to sample alterations that may occur during filtering. For example, as indicated in USEPA (1992) guidance, exposure of a sample to the atmosphere introduces oxygen that can oxidize dissolved ferrous iron in the sample to ferric hydroxide precipitate. The ferric hydroxide precipitate may enmesh other metals (i.e., uranium) in the sample, removing them from solution. The precipitate and the entrapped constituents would be removed by field filtration. Proper well development and maintenance (as is exemplified by the treatment of Monitoring Well 3027 later in Section 1.2.1.2) should be relied to reduce turbidity rather than relying on field filtering.
2. Commenting Organization: OEPA Commentor: HSI GeoTrans, Inc.
Section #: 1.2.2.3 Pg. #: 1-11 Line #: 4 Code: C
Original Comment #:
Comment: The submission date of the flow model report has been a moving target for at least the past six months. As recently as March 7, 2000, DOE indicated that the flow calibration report had been received in December and would be provided to the agencies for review in a few weeks. Why now does DOE vaguely state that the report will be made available later this year? Similarly, in the same March 7 phone call, DOE stated that work on the transport model was completed and that the draft data fusion report would be issued later that month; the agencies would see the document by no later than late April. In the case of both the flow and the transport model, the work has been completed but DOE appears to be unwilling to release the reports documenting these efforts. Unfortunately, such actions are corrosive to agency confidence in the new model and the purported benefits of data fusion technology. To correct this

Ohio EPA's Comments on the 4th QIEMP/99
April 28, 2000

situation, DOE should provide a time frame for submittal of the two documents as soon as possible. At the very least, the flow and transport data sets should be provided immediately while the supporting documents are "undergoing internal review."

EPA, 1992. RCRA Ground-Water Monitoring: Draft Technical Guidance, EPA/530-R-93-001, November 1992.

3. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 2.1.1 Pg. #: NA Line #: NA Code: c
Comment: The text in the third paragraph states that this is the first quarter for which the accumulation rate in the Cell 1 LDS is greater than the accumulation rate in the Cell 2 LDS. The text goes on to state that this is unexpected because the stage of filling of Cell 1 is much greater than Cell 2. Why is it expected that the LDS accumulation rate should be greater for Cells that are in earlier stages of filling? We note that the accumulation rates in the LDS of Cell 2 have recently been greater than in Cell 1.

4. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 2.2.1 Pg. #: NA Line #: 1st paragraph Code: c
Comment: The text states that the maximum fourth quarter flow rate in the LDS of Cell 2 is less than five per cent of the third quarter average of 3.8 gpad. This statement is true but we do not think it is relevant to understanding either the progression of flows (i.e., the expected changes in the flow volumes as the cell matures from a new empty cell to a partially filled cell to a closed cell) or the integrity of the primary liner. The high third quarter flows can be attributed to the December 1998 back up of the LCS into the LDS manhole and subsequently into the LDS drainage layer of Cell 2.

5. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 2.1.1 and 2.2.1 Pg. #: NA Line #: NA Code: c
Comment: The paragraphs in these sections which discuss the ongoing accumulation rates in the LDS continually compare measured volumes to the initial response leakage rate of 20 gpad. This comparison is used to support the contention that the cells are performing as designed. With our approval of the OSDF Design Package, we explicitly agreed to the quoted initial response rate. We do not wish to renege on our approval, but it is intuitive that a flawlessly installed 60 mil HDPE liner will not leak at a measurable rate. The absence of measurable volumes in the Cell 3 LDS support our intuition. Flow volumes in the Cell 2 LDS for the first quarter of the year 2000 have increased noticeably. There appears to be a definite correlation of increased

Ohio EPA's Comments on the 4th QIEMP/99
April 28, 2000

flows with 4 inches of rain over two days in the first week of January. Flows prior to January 4 were never greater than a non-detect. Starting with an accumulation period ending January 12, flows have been routinely above 0.26 gpad. The first quarter 2000 IEMP Status Report should include a discussion of the increased flows and an attempt should be made to correlate flows with rainfall.

6. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4.1.1 Pg. #: na Line #: na Code: C
Original Comment #:
Comment: The text states (paragraph 3) that the increase in annual average concentrations at AMS-22 and AMS-23 are insignificant. The increases exhibited at these locations may be due to the increased activity and excavation in the waste pit area, which may be significant since the increase may be related to site activities.
7. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4.1.1 Pg. #: na Line #: na Code: C
Original Comment #:
Comment: (Paragraph 6) The increase in Th-230 concentrations at WPTH-1 and WPTH-2 would not be associated with the start-up of the WPRAP dryer. Thorium emissions from the stack would be negligible with proper operation of HEPA filters and other pollution control equipment. The increases should be attributed to waste pit excavation and material handling.
8. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4.1.1 Pg. #: na Line #: na Code: C
Original Comment #:
Comment: The assumption that the temporary increases at AMS-6, AMS-25, and AMS-28 are attributed to fugitive emissions from the overall remediation of the site is inconsistent with the rest of the site-wide data and TSP concentrations. The wide variation in the locations where elevated concentrations occurred would cause one to conclude that other adjacent samplers would exhibit elevated concentrations also. They do not. AMS-28 is most likely due to WPRAP activities.